



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/490,631	01/24/2000	Yutaka Usami	00037/LH	7420

1933 7590 06/10/2005

FRISHAUF, HOLTZ, GOODMAN & CHICK, PC
220 5TH AVE FL 16
NEW YORK, NY 10001-7708

EXAMINER

DAY, HERNG DER

ART UNIT	PAPER NUMBER
----------	--------------

2128

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/490,631

Applicant(s)

USAMI ET AL.

Examiner

Herng-der Day

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 31-36 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 03 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 06072005.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

1. This communication is in response to Applicants' Amendment ("Amendment") to Office Action dated November 2, 2004, mailed March 2, 2005.

1-1. Claims 1-30 have been cancelled. Claims 31-36 have been added. Claims 31-36 are pending.

1-2. Claims 31-36 have been examined and rejected.

Drawings

2. The replacement drawing of FIG. 17 received by PTO March 3, 2005, are objected to for the following reasons. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicants will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2-1. It appears that "NME\$(11)="V2":", as shown in Fig. 17, should be "NME\$(11)="D2":".

2-2. It appears that "NM(1)=9:", as shown in Fig. 17, should be "NM(10)=9:".

2-3. It is unclear why the intersection cell "X1" needs to be defined twice at NME\$(3)="X1": and NME\$(8)="X1":.

Art Unit: 2128

3. The proposed drawing correction to FIG. 1 and the replacement sheet received March 2, 2005, are acceptable. The objection to the drawing of FIG. 1 has been withdrawn.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 31-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5-1. Independent claims 31, 33, and 35 recite the limitation “determining (determine) ... the number of particles moved through ... each of the intersection cells when the predetermined convergence condition is satisfied” in each claim. It is unclear whether “the number of particles moved through the intersection cell” refers to the net particles moved through the intersection cell, the particles moved between two intersection cells, or something else.

5-2. Claims not specifically rejected above are rejected as being dependent on a rejected claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2128

7. Claims 31-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Alvarado et al., “General Purpose Symbolic Simulation Tools for Electric Networks” IEEE Power Industry Computer Application Conference, May 1987.

7-1. Regarding claim 31, Alvarado et al. disclose a method for simulating an electric network including a plurality of circuit elements connected by a plurality of wiring lines, said method comprising:

defining electric functions of the plurality of circuit elements as a plurality of element cells; defining intersections of the wiring lines at which at least three of the circuit elements are connected as intersection cells; defining as a plurality of pipes, wiring lines extending between any of: (i) an element cell and another element cell, (ii) an intersection cell and another intersection cell, and (iii) an element cell and an intersection cell (Rule-based and object-oriented symbolic manipulations, pages 692-693, III);

setting respective rules of transfer of particles through the element cells based on respective types of the element cells, and setting respective rules of transfer of particles through the intersection cells (rules, page 690);

performing transfers of the particles through the element cells and the intersection cells based on the respective rules (direct modeling method, pages 693-694, IV);

repeating the transfers until a predetermined convergence condition is satisfied at which a respective number of particles in each of the pipes substantially steady and a respective number of particles moved through each of the element cells and intersection cells is substantially steady; and determining the number of particles in each of the pipes and the number of particles moved through each of the element cells and each of the intersection cells when the predetermined

Art Unit: 2128

convergence condition is satisfied (for example, solve the problem for 1000 time steps, page 695, VI).

7-2. Regarding claim 32, Alvarado et al. further disclose comprising:

determining voltages in the electric network based on the determined number of particles in each of the pipes; and determining currents in the electric network based on the determined number the particles moved through each of the element cells and intersection cells (solve a variety of simulation problems, page 694, column 1).

7-3. Regarding claims 33-34, these apparatus claims include equivalent method limitations as in claims 31-32 and are anticipated using the same analysis of claims 31-32.

7-4. Regarding claims 35-36, these medium claims include same method limitations as in claims 31-32 and are anticipated using the same analysis of claims 31-32.

Applicants' Arguments

8. Applicants argue the following:

(1) "Claims 31-36 have been prepared based to more clearly and positively recite the subject matter of the present invention, in better compliance with the requirements of 35 USC 112" (page 10, paragraph 3, Amendment).

(2) "according to Alvarado et al, the voltages and currents in the electric network are determined by solving a plurality of simultaneous differential equations" (page 13, paragraph 1, Amendment).

(3) "according to the claimed present invention, simple equations are repeatedly solved based on the rules for the interconnected cells, until the predetermined convergence condition is

Art Unit: 2128

satisfied. The electric network may thus be approximated without solving the simultaneous differential equations of Alvarado et al.” (page 13, paragraph 2, Amendment).

Response to Arguments

9. Applicants’ arguments have been fully considered.

9-1. Response to Applicants’ argument (1). The Examiner thanks Applicants’ submitting and discussing the exemplary demo program. The rejections of claims 25-30 under 35 U.S.C. 112, first paragraph, in Office Action dated November 2, 2004, have been withdrawn.

9-2. Applicants’ argument (2) is not persuasive. As described at page 691, section 5, “It solves simultaneous linear or nonlinear algebraic equation systems”.

9-3. In response to Applicants’ argument (3) that the references fail to show certain features of Applicants’ invention, it is noted that the features upon which Applicant relies (i.e., without solving the simultaneous equations) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Herng-der Day whose telephone number is (571) 272-3777. The Examiner can normally be reached on 9:00 - 17:30. Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

Art Unit: 2128

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Jean R. Homere can be reached on (571) 272-3780. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Herng-der Day H.D.
June 7, 2005

Thai Phan
Thai Phan
Patent Examiner
AU: 2128

